
Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)

217-9197 (toll free).

Reviewer: Saleem, Syed (ASRC)

Timestamp: [year=2010; month=4; day=5; hr=9; min=33; sec=34; ms=714;]

Validated By CRFValidator v 1.0.3

Application No: 10576757 Version No: 4.0

Input Set:

Output Set:

Started: 2010-03-30 02:59:59.786

Finished: 2010-03-30 03:00:05.086

Elapsed: 0 hr(s) 0 min(s) 5 sec(s) 300 ms

Total Warnings: 29

Total Errors: 0

No. of SeqIDs Defined: 29

Actual SeqID Count: 29

Error code		Error Description									
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(1)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(2)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(3)
M	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(4)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(5)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(6)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(7)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(8)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(9)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(10)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(11)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(12)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(13)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(14)
M	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(15)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(16)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(17)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(18)
M	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(19)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(20)

Input Set:

Output Set:

Started: 2010-03-30 02:59:59.786

Finished: 2010-03-30 03:00:05.086

Elapsed: 0 hr(s) 0 min(s) 5 sec(s) 300 ms

Total Warnings: 29

Total Errors: 0

No. of SeqIDs Defined: 29

Actual SeqID Count: 29

Error code Error Description

This error has occured more than 20 times, will not be displayed

SEQUENCE LISTING

```
<110> Winter Sederoff, Heike
      Huber, Steven C
      Larabell, Carolyn A
<120> SYNTHETIC PEPTIDES THAT CAUSE F-ACTIN BUNDLING AND BLOCK ACTIN
       DEPOLYMERIZATION
<130> JIB-1571
<140> 10576757
<141> 2010-03-30
<150> US 60/513,275
<151> 2003-10-20
<160> 29
<170> PatentIn version 3.5
<210> 1
<211> 15
<212> PRT
<213> Artificial
<220>
<223> synthetic consensus active Zea mays Sucrose Synthase (SuSy)
      peptide
<400> 1
Glu Asn Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp
                                   10
                                                       15
1
                5
<210> 2
<211> 15
<212> PRT
<213> Artificial
<220>
<223> synthetic peptide derived from Zea mays SuSyl protein 367-381
<400> 2
Glu Asn Gly Ile Leu Arg Lys Trp Ile Ser Arg Phe Asp Val Trp
1
                                   10
                                                       15
<210> 3
<211> 15
<212> PRT
<213> Artificial
```

```
<400> 3
Glu Asn Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp
                                                       15
1
                                   10
<210> 4
<211> 15
<212> PRT
<213> Artificial
<220>
<223> synthetic peptide derived from Zea mays SuSy3 protein
<400> 4
Glu Asn Gly Ile Leu Lys Lys Trp Ile Ser Arg Phe Asp Val Trp
                                   10
                                                       15
1
<210> 5
<211> 15
<212> PRT
<213> Artificial
<220>
      synthetic peptide derived from Drosophila melanogaster Actin 2
<223>
      protein and Homo sapiens beta and gamma Actin proteins
<400> 5
Glu His Gly Ile Val Thr Asn Trp Asp Asp Met Glu Lys Ile Trp
                5
                                   10
                                                       15
1
<210> 6
<211> 15
<212> PRT
<213> Artificial
<220>
      synthetic peptide derived from Drosophila melanogaster Actin 3,
<223>
       5, and 6 proteins and Homo sapiens alpha Actin protein
<400> 6
Glu His Gly Ile Ile Thr Asn Trp Asp Asp Met Glu Lys Ile Trp
1
                                   10
                                                       15
<210>
<211> 15
<212> PRT
<213> Artificial
```

<223> synthetic peptide derived from Zea mays SuSy2 protein 357-389

```
<223> synthetic peptide derived from Drosophila melanogaster ARP1
<400> 7
Glu His Gly Ile Val Lys Asp Trp Asn Asp Met Glu Arg Ile Trp
                                   10
                                                       15
1
<210> 8
<211> 15
<212> PRT
<213> Artificial
<220>
<223> synthetic peptide derived from Drosophila melanogaster ARP2
<400> 8
Glu Asn Gly Val Val Arg Asn Trp Asp Asp Met Cys His Val Trp
1
                                   10
                                                       15
                5
<210> 9
<211> 17
<212> PRT
<213> Artificial
<220>
<223> synthetic SS1 inactive control peptide
<220>
      peptide
<221>
<222>
      (1)..(17)
<400> 9
Gly Asp Arg Val Leu Ser Arg Leu His Ser Val Arg Glu Arg Ile Gly
                                   10
1
                                                       15
Lys
<210> 10
<211>
     18
<212> PRT
<213> Artificial
<220>
<223> SS2 active peptide based on Zea mays SuSy 377-392
<400> 10
```

Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp Pro Tyr Leu

1 5 10 15

Lys Lys

<210> 11 <211> 15

<212> PRT

<213> Artificial

<220>

<223> SS11 inactive synthetic peptide

<400> 11

Ile Leu Arg Val Pro Phe Arg Thr Glu Asn Gly Ile Val Arg Lys
1 10 15

<210> 12

<211> 16

<212> PRT

<213> Artificial

<220>

<223> SS12 active synthetic peptide

<400> 12

Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp Pro Tyr Leu
1 1 15

<210> 13

<211> 16

<212> PRT

<213> Artificial

<220>

<223> SS15 less active synthetic peptide

<220>

<221> SITE

<222> (6)..(6)

<223> replaced Tryptophan residue with Alanines

<220>

<221> SITE

<222> (13)..(13)

<223> replaced Tryptophan residue with Alanine

<400> 13

Gly Ile Val Arg Lys Ala Ile Ser Arg Phe Glu Val Ala Pro Tyr Leu

1 5 10 15

<210> 14 <211> 9 <212> PRT <213> Artificial <220> <223> SS16 less active synthetic peptide corresponding to short middle portion of SS12 synthetic peptide <400> 14 Ser Arg Phe Glu Val Trp Pro Tyr Leu 1 <210> 15 <211> 19 <212> PRT <213> Artificial <220> <223> NR11 inactive synthetic peptide <400> 15 Gly Pro Thr Leu Lys Arg Thr Ala Ser Thr Ala Phe Met Asn Thr Thr 15 1 10 Ser Lys Lys <210> 16 <211> 14 <212> PRT <213> Artificial <220> <223> SP26 inactive synthetic peptide <400> 16 Gly Arg Met Arg Ile Ala Thr Val Glu Met Met Lys Lys 1 10 <210> 17 <211> 8 <212> PRT

<223> Small block of SS12 sequence required for less active synthetic

<213> Artificial

```
peptide
<400> 17
Trp Ile Ser Arg Phe Glu Val Trp
1
<210> 18
<211> 10
<212> PRT
<213> Artificial
<220>
<223> SP3 inactive synthetic peptide
<400> 18
Arg Arg Ile Ser Ser Val Glu Asp Lys Lys
                                   10
1
<210> 19
<211> 20
<212> PRT
<213> Artificial
<220>
<223> synthetic peptide of Drosophila melanogaster Actin protein
       consensus sequence
<400> 19
Glu His Gly Ile Val Thr Asn Trp Asp Asp Met Glu Lys Ile Trp His
                                   10
                                                       15
1
                5
His Thr Phe Tyr
            20
<210>
      20
<211> 15
<212> PRT
<213> Artificial
<220>
<223> synthetic peptide derived from Homo sapiens ARP1 protein
<400> 20
Glu His Gly Val Val Arg Asp Trp Asn Asp Met Glu Arg Ile Trp
                                   10
                                                       15
1
                5
```

<210> 21 <211> 15

```
<213> Artificial
<220>
<223> synthetic peptide derived from Homo sapiens ARP2 protein
<400> 21
Glu Asn Gly Ile Val Arg Asn Trp Asp Asp Met Lys His Leu Trp
                                   10
                5
                                                       15
1
<210> 22
<211> 6
<212> PRT
<213> Artificial
<220>
<223> Core minimum block of SS12 sequence required for less active
       synthetic peptide
<400> 22
Ser Arg Phe Glu Val Trp
1
                5
<210> 23
<211> 13
<212> PRT
<213> Artificial
<220>
<223> SS synthetic peptide B
<400> 23
Trp Ile Ser Arg Phe Glu Val Trp Pro Tyr Leu Lys Lys
                                   10
1
<210> 24
<211>
      20
<212> PRT
<213> Artificial
<220>
<223> SS synthetic peptide C
<400> 24
Glu Asn Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp Pro
                                   10
                                                       15
1
                5
```

Tyr Leu Lys Lys

<212> PRT

```
<210> 25
<211> 16
<212> PRT
<213> Artificial sequence
<220>
<223> Consensus sequence of Synthetic Susy and ARP sequences
<220>
<221> VARIANT
<222> (2)..(2)
<223> X=His or Asn
<220>
<221> VARIANT
<222> (5)..(5)
<223> X= Val or Leu
<220>
<221> VARIANT
<222> (6)..(6)
<223> X= Arg, Tyr or Lys
<220>
<221> VARIANT
<222> (7)..(7)
\langle 223 \rangle X= Lys, Asn, Asp
<220>
<221> VARIANT
<222> (9)..(9)
<223> X= Ile or Asp
<220>
<221> VARIANT
<222> (10)..(10)
<223> X= Ser or Asp
<220>
<221> VARIANT
<222> (11)..(11)
<223> X= Arg or Met
<220>
<221> VARIANT
<222> (12)..(12)
<223> X= Glu, Phe, Cys, or Lys
<220>
<221> VARIANT
<222> (13)..(13)
<223> X= Glu, Asp, Lys, Arg, or His
```

```
<221> VARIANT
<222> (14)..(14)
<223> X= Ile, Leu, or Val
<220>
<221> VARIANT
<222> (16)..(16)
<223> X= Phe-Tyr-Leu or His-His-Thr-Phe
<220>
<221> VARIANT
<222> (16)..(16)
<223> X= Phe-Tyr-Leu or His-His-Thr-Phe-Tyr
<400> 25
Glu Xaa Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Trp Xaa
                                    10
                                                        15
1
<210> 26
<211> 15
<212> PRT
<213> Artificial sequence
<220>
<223> Motif for a synthetic peptide which causes actin bundling and
       inhbits actin depolymerization
<220>
<221> VARIANT
<222> (2)..(2)
<223> X = any amino acid
<220>
<221> VARIANT
<222>
      (4)..(4)
\langle 223 \rangle X = Ile or Val
<220>
<221> VARIANT
<222>
      (5)..(7)
<223> X = any amino acid
<220>
<221>
      VARIANT
<222>
      (9)..(14)
<223> X = any amino acid
<400> 26
Glu Xaa Gly Xaa Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Trp
                                    10
                                                        15
1
```

```
<211> 15
<212> PRT
<213> Artificial sequence
<220>
<223> Motif for a synthetic peptide that causes actin bundling and
       inhibits actin depolymerization
<220>
<221> VARIANT
<222> (2)..(2)
<223> X= Lys, Arg, or His
<220>
<221> VARIANT
<222> (5)..(5)
<223> X= Ala, Val, Leu, Ile, Phe, Trp, Pro, or Met
<220>
<221> VARIANT
<222> (6)..(6)
<223> X= Lys, Arg, or His
<220>
<221> VARIANT
<222> (7)..(7)
<223> X= any amino acid
<220>
<221> VARIANT
<222> (9)..(13)
<223> X= any amino acid
<220>
<221> VARIANT
<222>
      (14)...(14)
<223> X= Ala, Val, Leu, Ile, Phe, Trp, Pro, or Met
<400> 27
Glu Xaa Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Trp
                                   10
1
                                                       15
<210> 28
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
<223> Formula (I) for active synthetic peptides
<220>
<221> VARIANT
```

<222> (3)..(3)

```
\langle 223 \rangle X = Ile, Val, or Leu
<220>
<221> VARIANT
<222> (4)..(4)
\langle 223 \rangle X = Arg, Lys, Asn, or Thr
<220>
<221> VARIANT
<222> (5)..(5)
\langle 223 \rangle X = Arg, Lys, Asn, or Asp
<220>
<221> VARIANT
<222> (7)..(7)
\langle 223 \rangle X = Ile, Asp, Asn, or Glu
<220>
<221> VARIANT
<222> (8)..(8)
\langle 223 \rangle X = Ser, or Asp
<220>
<221> VARIANT
<222> (9)..(9)
<223> X = Arg, Met, or Ala
<220>
<221> VARIANT
<222> (10)..(10)
<223> X = Phe, or Glu
<220>
<221> VARIANT
<222>
      (11)...(11)
<223> X =Asp, Glu, Lys, Arg, or His
<220>
<221> VARIANT
<222> (12)..(12)
<223> X =Val, or Ile
<220>
<221> VARIANT
<222> (14)..(14)
<223> X =Pro, or His
<220>
<221> VARIANT
<222> (15)..(15)
<223> X =Tyr, or His
<220>
<221> VARIANT
<222> (16)..(16)
<223> X =Leu, or Thr
```

```
<400> 28
```

```
10
1
                                                      15
<210> 29
<211> 13
<212>
      PRT
<213> Artificial Sequence
<220>
<223> Formula (II) for synthetic active peptides
<220>
<221> VARIANT
<222> (3)..(3)
<223> X = Ala, Val, Leu, Ile, Phe, Trp, Pro, or Met
<220>
<221> VARIANT
<222> (4)..(4)
<223> X = Lys, Arg, or His
<220>
<221> VARIANT
<222> (5)..(5)
<223> X = any amino acid
<220>
<221> VARIANT
<222> (7)..(11)
<223> X = any amino acid
<220>
<221> VARIANT
<222>
      (12)..(12)
<223> X = Lys, Arg, or His
<400> 29
Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Trp
                                   10
```

Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Trp Xaa Xaa